

WHAT IS CLAIMED IS:

1. An image processing apparatus, comprising:

image input means for inputting an image signal relating to a television broadcast;

5 menu generation means for generating a menu image signal representing an operation menu relating to processing of the image signal and having a plurality of menu portions at different hierarchical levels each including at least one menu item;

10 display control means for displaying on a display unit an image corresponding to the image signal output from said image input means and the operation menu corresponding to the menu image signal generated by said menu generation means;

15 instruction input means for receiving an instruction from an operating unit including a plurality of function keys and selection means for selecting a desired item in the operation menu displayed on said display unit;

20 assignment means for assigning, according to a predetermined operation by the operating unit, a function according to one item selected by said selection means from the items in the operation menu displayed on said display unit to one of said plurality
25 of function keys; and

control means for controlling, in response to said operation of the function key, said image input means

0873250 060504

to execute processing corresponding to the function assigned to said function key by said assignment means.

2. An apparatus according to claim 1, wherein
5 said menu generation means further generates a registration menu image signal representing a registration menu having a plurality of items corresponding to said plurality of function keys, and outputs the registration menu image signal to said
10 display control means.

3. An apparatus according to claim 2, wherein
said menu generation means generates said registration menu image signal so that said registration menu is
15 displayed adjacent to said operation menu.

4. An apparatus according to claim 2, wherein
said selection means is also capable of selecting one of the items in said registration menu as desired, and
20 said assignment means assigns the function corresponding to the item selected from said operation menu by said selection means to one of the function keys corresponding to the item selected from the registration menu by said selection means.

25

5. An apparatus according to claim 2, wherein
said assignment means performs said assignment

operation according to the key operation performed by said operating unit to determine one of the items in said registration menu as desired.

5 6. An apparatus according to claim 2, wherein said assignment means performs said assignment operation in response to the absence of any operation by said operating unit during a predetermined time period.

10

7. An apparatus according to claim 1, wherein said menu portion at the lowest level includes a plurality of menu items corresponding to said plurality of function keys, and said assignment means assigns the function corresponding to the item selected from said operation menu by said selection means to one of the function keys corresponding to the item selected from the menu items at the lowest level by said selection means.

20

8. An apparatus according to claim 1, wherein said control means controls said control object in order to execute the function corresponding to the item selected by said selection means from the operation menu displayed on said display unit.

25

9. An apparatus according to claim 1, wherein

09072600 060501

said operating unit comprises a remote control device.

10. An apparatus according to claim 1, wherein
said menu generation means includes a storage unit for
5 storing image data representing said operation menu.

11. An apparatus according to claim 1, wherein
said menu generation means includes a storage unit for
storing character code data and font data representing
10 said operation menu.

12. An apparatus according to claim 1, wherein
said assignment means includes a memory for storing
code data representing functions assigned to said
15 plurality of function keys.

13. An apparatus according to claim 1, wherein
said display control means synthesizes a combined image
signal by combining the image signal output from said
20 image input means and the menu image signal generated
by said menu generation means, and displays an image
corresponding to said combined image signal on the
display unit.

14. A signal processing apparatus, comprising:
signal input means for inputting an image signal
and an audio signal relating to a television broadcast;

menu generation means for generating a menu image
signal representing an operation menu relating to
processing of the audio signal and having a plurality
of menu portions at different hierarchical levels each
5 including at least one menu item;

audio output means for outputting, to an audio
monitor, sound relating to the audio signal output from
said signal input means;

10 display control means for displaying on a display
unit an image corresponding to the image signal output
from said signal input means and the operation menu
corresponding to the menu image signal generated by
said menu generation means;

15 instruction input means for receiving an
instruction from an operating unit including a
plurality of function keys and selection means for
selecting a desired item in the operation menu
displayed on said display unit;

20 assignment means for assigning, according to a
predetermined operation by said operating unit, a
function corresponding to one item selected by said
selection means from the items in operation menu
displayed on said display unit to one of said plurality
of function keys; and

25 control means for controlling, in response to the
operation of said function key, said audio input means
to execute processing corresponding to the function

09873250.060501

assigned to said function key by said assignment means.

15. A television receiver, comprising:

receiving means for receiving a television

5 broadcast;

image processing means for processing an image
signal relating to the television broadcast received by
said receiving means;

audio processing means for processing an audio
10 signal relating to the television broadcast received by
said receiving means;

a display unit;

a speaker for outputting sound corresponding to
the audio signal processed by said audio processing;

15 menu generation means for generating a menu image
signal representing an operation menu having a
plurality of menu portions at different hierarchical
levels and relating to processing of the image signal
and the audio signal;

20 display control means for synthesizing a combined
image signal by combining the image signal output from
said image processing means and the menu image signal
generated by said menu generation means, and for
displaying an image corresponding to the combined image
25 signal on said display unit;

instruction input means for receiving an
instruction from a remote controller having an

assignment means for assigning, according to a predetermined operation by said remote controller, a function according to one item selected by said selection means from items in the operation menu displayed on said display unit to one of said plurality of function keys; and

10 control means for controlling, in response to the
operation of said function key, said image processing
means and said audio processing means to execute
processing according to said function assigned to the
function key by said assignment means.

15

16. An image processing method, comprising the steps of:

inputting an image signal relating to a television
broadcast;

20 generating a menu image signal representing an
operation menu relating to processing of the image
signal and having a plurality of menu portions at
different hierarchical levels each including at least
one menu item;

25 displaying on a display unit an image
corresponding to the image signal obtained in said
signal input step and the operation menu corresponding

receiving an instruction from an operating unit including a plurality of function keys and selection

assigning, according to a predetermined operation by the operating unit, a function corresponding to one item selected by said selection means from the items in the operation menu displayed on said display unit to one of the plurality of function keys; and

17. A signal processing method, comprising the steps of:

generating a menu image signal representing an operation menu relating to processing of the audio signal and having a plurality of menu portions at different hierarchical levels each including at least one menu item;

outputting, to an audio monitor, sound
corresponding to the audio signal obtained in said

signal input step;

displaying on a display unit an image
corresponding to the image signal obtained in said
signal input step and the operation menu corresponding
5 to the menu image signal generated in said menu
generation step;

receiving an instruction from an operating unit
including a plurality of function keys and selection
means for selecting a desired item in the operation
10 menu displayed on the display unit;

assigning, according to a predetermined operation
by said operating unit, a function according to one
item selected by said selection means from the items in
operation menu displayed on said display unit to one of
15 said plurality of function keys; and

controlling, in response to the operation of the
function key, said audio input step to execute
processing corresponding to the function assigned to
said function key in said assignment step.

09372250.066501